



# AFP0RC10MRS | FP0R

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\*Photo may vary from actual product.

RoHS compliant

→ Dimensions  
↓ Accessories (Option)

Product Number	AFP0RC10MRS
Part Number	AFP0RC10MRS
Product	FP0R Control unit
Details	C10
Product name	FP0R

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FAQ

As of January 23, 2018

Specifications and design of the products are subject to change without notice for the product improvement.

## Spec Detail

Item	Specifications
Product Number	AFP0RC10MRS
Part Number	AFP0RC10MRS

### Performance specifications

Item	Specifications
Programming method / Control method	Relay symbol / Cyclic operation
Number of I/O points : No expansion (Control unit only)	10 points [Input : 6, Relay output : 4]
Number of I/O points : With expansion 1 * Same type of control and expansion units	Max. 58 points
Number of I/O points : With expansion 2 * Mix type of relay and transistor units	Max. 106 points
Program memory	EEPROM (no backup battery required)
Program capacity	16 k steps
Number of instructions : Basic	110 approx.
Number of instructions : High-level	210 approx.
Operation speed : Up to 3,000 steps	Basic instructions : 0.08 μs Min. Timer instructions : 2.2 μs Min. High-level instructions : 0.32 μs (MV instruction) Min.
Operation speed : 3,001st and later steps	Basic instructions : 0.58 μs Min. Timer instructions : 3.66 μs Min. High-level instructions : 1.62 μs (MV instruction) Min.
Operation memory : Relay : Internal relay (R)	4,096 points
Operation memory : Relay : Timer / Counter (T / C)	1,024 points

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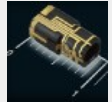
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Operation memory : Memory area : Data register (DT)	12,315 words
Operation memory : Memory area : Index register (IX, IY)	14 words (IO to ID)
Master control relay points (MCR)	256 words
Number of labels (JMP and LOOP)	256 labels
Differential points	Equivalent to the program capacity
Number of step ladder	1,000 stages
Number of subroutines	500 subroutines
Special functions : High speed counter	Single-phase : 4 points (50 kHz max. each) 2-phase : 2 channels (15 kHz max. each) *For the limitations while operating units, see the manual.
Special functions : Pulse output	Not available
Special functions : PWM output	Not available
Special functions : Pulse catch input / interrupt input	Total 8 points (with high speed counter)
Special functions : Interrupt program	Input : 8 programs (6 programs for C10 only) / Periodic : 1 program / Pulse match : 4 programs/td>
Special functions : Periodical interrupt	In units of 0.5 ms : 0.5 ms to 1.5 sec. / In units of 10 ms : 10 ms to 30 sec.
Special functions : Constant scan	In units of 0.5 ms : 0.5 ms to 600 ms
Special functions : RS485 port	One RS485 port is mounted (3P terminal block) Transmission speed (Baud rate) : 115.2 kbps (It is possible to change to 19.2 kbps by the setting.), Transmission distance : 1,200 m <a href="#">3,937 ft</a> , Communication method : half duplex
Maintenance : Memory backup : Program and system register	Stored program and system register in EEPROM
Maintenance : Memory backup : Operation memory	Stored fixed area in EEPROM Counter : 16 points Internal relay : 128 points Data register : 315 words
Maintenance : Self-diagnostic function	Watchdog timer (690 ms approx.), Program syntax check
Maintenance : Real-time clock function	Not available
Maintenance : Other functions	Rewriting in RUN mode, Download in RUN mode (incl. comments), 8-character password setting, and Program upload protection

## General specifications

Item	Specifications
Rated voltage	24 V DC
Operating voltage range	20.4 to 28.8 V DC
Allowed momentary power off time	5 ms (at 20.4 V DC), 10 ms (21.6 V DC or higher)
Operating temperature	0 to +55 °C <a href="#">32 to +131 F</a>
Storage temperature	-40 to +70 °C <a href="#">-40 to +158 F</a> (-20 °C to +70 °C <a href="#">-4 to +158 F</a> for T32 only)
Operating humidity	10 to 95% RH (at 25 °C <a href="#">77 F</a> , no condensation)
Storage humidity	10 to 95% RH (at 25 °C <a href="#">77 F</a> , no condensation)
Breakdown voltage (Detection current: 5 mA)	Input terminals - output terminals, Output terminals - power and functional ground terminals --- Transistor output : 500 V AC for 1 minute (Relay output : 1,500 V AC for 1 minute) / Input terminals - power and functional ground terminals, Functional ground terminal - power terminal --- Transistor output : 500 V AC for 1 minute (Relay output : 500 V AC for 1 minute) / Output terminals - output terminals (different common terminals) --- Relay output : 1,500 V AC for 1 minute
Insulation resistance (Test voltage: 500 V DC)	Input terminals - output terminals, input terminals - power and functional ground terminals, output terminals - power and functional ground terminals, functional ground terminal - power terminal --- Transistor output : 100 MΩ minimum (relay output : 100 MΩ minimum) / Output terminals - output terminals (different common terminals) --- Relay output : 100 MΩ minimum
Vibration resistance	5 to 9 Hz, single amplitude of 3.5 mm, 1 sweep/min; 9 to 150 Hz, constant acceleration of 9.8 m/s <sup>2</sup> , 1 sweep/min; for 10 min each in X, Y, and Z directions

Shock resistance	147 m/s <sup>2</sup> or more , 4 times each in X, Y, and Z directions
Noise immunity	1,000 V (p-p) with pulse widths 50 ns and 1 μs (using a noise simulator)(Power supply terminal)
Operating environment	Free from corrosive gasses and excessive dust

### Input specifications

Item	Specifications
Rated input voltage	24 V DC
Applied voltage range	21.6 to 26.4 V DC
Rated input current	2.6 mA approx. (at 24 V DC)
Input impedance	9.1 kΩ approx.
Input points per common	6 points / common
Min. ON voltage/Min. ON current	19.2 V / 2 mA
Max. OFF voltage/Max. OFF current	2.4 V / 1.2 mA
Response time : OFF→ON	20 μs or less * An input time constant (0.1 to 64 ms) can be set.
Response time : ON→OFF	Same as above
Insulation method	Photocoupler
Remark	Since the response time of X0 to X7 is very fast (for high-speed counter input) the FP0 happens to chattering noise as an input signal. To prevent this, it is recommended that the timer should be put in the ladder program.

### Output specifications




Item	Specifications
Output type	1a
Rated control capacity	2 A 250 V AC, 2 A 30 V DC (4.5 A / common)
Response time : OFF→ON	10 ms approx.
Response time : ON→OFF	8 ms approx.
Life time : Mechanical	2 x 10 <sup>7</sup> operations or more
Life time : Electrical	10 <sup>5</sup> operations or more
Surge absorber	None
Output points per common	2 points / common + 1 point / common + 1point / comon

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↓ [Accessories \(Option\)](#)

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## Accessories (Option)

		
Product Number <b>FP0-TC4</b>	Product Number <b>FP0-TC8</b>	Product Number <b>AFP0581</b>
Part Number <b>AFP0420</b>	Part Number <b>AFP0421</b>	Part Number <b>AFP0581</b>
Product name <b>FP0 Intelligent units</b>	Product name <b>FP0 Intelligent units</b>	Product name <b>Power cable</b>

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